**THAT WHICH IS CLAIMED IS:**

1.    A system for determining the probability of oil or mineral deposits, comprising:

at least one data collection device for collecting elevation slope,  magnetic and gravity data sets for a predetermined area of  the earth's surface; and

a processor for receiving the elevation slope, magnetic and gravity data sets and  applying the gravity and magnetic data sets to the elevation slope data set in a transfer function to link the elevation slope data set to the likely presence of oil or mineral deposits.

2.    A system according to Claim 1, wherein said elevation slope, magnetic and gravity data sets are represented as gradients within matrices to which the presence of oil or mineral deposits are linked.

3.    A system according to Claim 2, wherein said processor is operative for manipulating the matrices to obtain potential signature values indicative of the presence of oil or mineral deposits within the predetermined area of the earth's surface.

4.    A system according to Claim 2, wherein said processor is operative to determine if any matrices are singular and a resulting determinant is zero, indicative of a change and increased probability that oil or mineral deposits exist within the predetermined area of the earth's surface.

5.  A system according to Claim 1, and further comprising at least one image of the predetermined area of the earth's surface through which specific data values of elevation slope can be extracted.

6.  A system according to Claim 1, wherein a probability value is assigned for the presence of oil or mineral deposits through the transfer function.

7.  A system according to Claim 6, wherein a probability value is assigned for the presence of oil or mineral deposits based on elevation slope data sets applied through the transfer function.

8.  A system according to Claim 1, wherein said elevation slope data set comprises Digital Terrain Elevation Data (DTED).

9.  A system according to Claim 1, wherein said data collection device comprises an airborne data collection platform.

10.  A system according to Claim 1, wherein said data collection device comprises a camera for obtaining images of the predetermined area of the earth's surface.

11.  A system according to Claim 1, wherein said at least one data collection device comprises ground based magnetic or gravity sensing devices for obtaining the magnetic or gravity data sets for a predetermined area of the earth's surface.

12. A system according to Claim 1, wherein said gravity data set comprises data indicative of a change in the earth gravity field along the predetermined area of the earth's surface.

13. A system according to Claim 1, wherein said magnetic data set comprises data indicative of a change in the earth magnetic field along the predetermined area of the earth's surface.

14. A system for determining the probability of oil or mineral deposits, comprising:

at least one data collection device for collecting elevation slope, magnetic and gravity data sets for a predetermined area of the earth's surface; and

a processor for receiving the elevation slope, magnetic and gravity data sets and establishing vector representations indicative of gradients for the elevation slope, magnetic and gravity data sets and applying a transfer function to the vector representations to link the elevation slope data set to the likely presence of oil and mineral deposits.

15. A system according to Claim 14, wherein said vector representations are indicative of intensity as a function of location for respective magnetic and gravity data sets.

16. A system according to Claim 14, wherein said elevation slope, magnetic and gravity data sets are represented as gradients within matrices to which the presence of oil or mineral deposits are linked.

17.   A system according to Claim 16, wherein said processor is operative for manipulating matrices to obtain potential signature values indicative of the presence of oil or mineral deposits within the predetermined area of the earth's surface.

18.   A system according to Claim 16, wherein said processor is operative to determine if any matrices are singular and a resulting determinant is zero, indicative of a change and increased probability that oil or mineral deposits exist within the predetermined area of the earth's surface.

19.   A system according to Claim 14, and further comprising at least one image óf the predetermined area of the earth's surface through which specific data values of elevation slope can be extracted.

20.   A system according to Claim 14, wherein a probability value is assigned for the presence of oil and mineral deposits through the transfer function.

21.   A system according to Claim 20, wherein a probability value is assigned for the presence of oil or mineral deposits based on elevation slope data sets applied through the transfer function.

22.   A system according to Claim 14, wherein said elevation slope data set comprises Digital Terrain Elevation Data (DTED).

23. A system according to Claim 14, wherein said data collection device comprises an airborne data collection platform.

24. A system according to Claim 14, wherein said data collection device comprises a camera for obtaining images of the predetermined area of the earth's surface.

25. A system according to Claim 14, wherein said at least one data collection device comprises ground based magnetic and gravity sensing devices for obtaining the magnetic and gravity data sets for a predetermined area of the earth's surface.

26. A system according to Claim 14, wherein said gravity data set comprises data indicative of a change in the earth gravity field along the predetermined area of the earth's surface.

27. A system according to Claim 14, wherein said magnetic data set comprises data indicative of a change in the earth magnetic field along the predetermined area of the earth's surface.

28. A method for determining the probability of oil or mineral deposits, which comprises:
collecting elevation slope, magnetic and gravity data sets for a predetermined area of the earth's surface; and
applying the gravity and magnetic data sets in a transfer function with the elevation slope data set to link the elevation slope data set to the likely presence

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of oil or mineral deposits within the predetermined area
of the earth's surface.

29.   A method according to Claim 28, which further
comprises representing the elevation slope, magnetic and
gravity data sets as gradients within matrices to which
the presence of oil and mineral deposits can be
correlated.

30.   A method according to Claim 29, which further
comprises manipulating the matrices to obtain potential
signature values indicative of the presence of oil and
mineral deposits.

31.   A method according to Claim 29, which further
comprises determining if any matrices are singular and a
resulting determinant is zero, indicative of a change and
greater probability that oil or mineral deposits exist
within the predetermined area of the earth's surface.

32.   A method according to Claim 28, which further
comprises extracting specific values from imagery data
sets to predict the presence of oil or mineral deposits
within the predetermined area of the earth's surface.

33.   A method according to Claim 32, which further
comprises assigning a probability value for the presence
of oil and mineral deposits through the transfer
function.

34.   A method according to Claim 33, which further
comprises assigning a probability value for the presence

of oil and mineral deposits based on elevation slope data through the transfer function.

35. A method according to Claim 28, which further comprises collecting elevation slope data as Digital Terrain Elevation Data (DTED).

36. A method according to Claim 28, which further comprises collecting elevation slope data from an airborne collection platform.

37. A method according to Claim 28, which further comprises collecting elevation slope data from images of the predetermined area of the earth's surface.

38. A method according to Claim 28, which further comprises collecting magnetic and gravity data sets from ground based magnetic and gravity sensing devices.

39. A method according to Claim 28, which further comprises measuring a change in the earth gravity field along the predetermined area of the earth's surface for obtaining the gravity data.

40. A method according to Claim 28, which further comprises measuring a change in the earth magnetic field along the predetermined area of the earth's surface for obtaining the magnetic data.

41. A method for determining the probability of oil and mineral deposits, which comprises:

collecting elevation slope, magnetic and gravity data sets for a predetermined area of the earth's surface;

establishing vector representations indicative of gradients for the elevation slope, magnetic and gravity data sets; and

applying a transfer function to the vectors to determine the likely presence of oil or mineral deposits within the predetermined area of the earth's surface.

42. A method according to Claim 41, which further comprises representing the vectors as an intensity function of location for magnetic and gravity data sets.

43. A method according to Claim 41, which further comprises representing the elevation slope, magnetic and gravity data as gradients within matrices to which the presence of oil and mineral deposits can be correlated.

44. A method according to Claim 43, which further comprises manipulating the matrices to obtain potential signature values indicative of the presence of oil and mineral deposits.

45. A method according to Claim 43, which further comprises determining if any matrices are singular and a determinant is zero indicative of a change and greater probability that oil or mineral deposits exist within the predetermined area of the earth's surface.

46. A method according to Claim 41, which further comprises extracting specific values from imagery data

sets to predict the presence of oil or mineral deposits with the predetermined area of the earth's surface.

47. A method according to Claim 41, which further comprises assigning a probability value for the presence of oil and mineral deposits through the transfer function.

48. A method according to Claim 47, which further comprises assigning a probability value for the presence of oil and mineral deposits based on elevation slope data through the transfer function.

49. A method according to Claim 41, which further comprises collecting elevation slope data as Digital Terrain Elevation Data (DTED).

50. A method according to Claim 41, which further comprises collecting elevation slope data from an airborne collection platform.

51. A method according to Claim 41, which further comprises collecting elevation slope data from images of the predetermined area of the earth's surface.

52. A method according to Claim 41, which further comprises collecting magnetic and gravity data sets from ground based magnetic and gravity sensing devices.

53. A method according to Claim 41, which further comprises measuring a change in the earth gravity field

along the predetermined area of the earth's surface for obtaining the gravity data.

54. A method according to Claim 41, which further comprises measuring a change in the earth magnetic field along the predetermined area of the earth's surface for obtaining the magnetic data.